

PP-72

Classical Taxonomy: A Protagonist in the Era of Phylogenomics

Nalini Tiwari and Shweta Yadav*

Department of Zoology, Dr. Harisingh Gour Vishwavidyalaya (A Central University)
Sagar, Madhya Pradesh, India – 470003

*Email:kmshweta@gmail.com)

Since 1980s, molecular characters called attention to systematics. Heading towards 21st century, the hasty developments in sequencing techniques for robust comprehensive gene sets played a prominent role in phylogenetic reconstruction at all taxonomic levels due to unprecedented amounts of potentially informative characters. This has led to an astonishing progress on one hand, while on other side it is jeopardizing the survival of comparative morphology with preoccupation of molecular contributions in systematic and evolutionary biology. Although, molecular systematics claimed to revolutionize taxonomy by increasing species discovery and delimitation without the need for precise taxonomic knowledge, apart of using mtDNA barcoding received criticism on methodological, theoretical, and empirical grounds. The significance and limitations of molecular taxonomy and the vital role of classical taxonomy were reviewed to inventor earthworm diversity and other entities. The study have reinforced the implementation of the integrated approach of classical and modern taxonomy. It is emphasized that in this genomics era comparative morphology shall continue to play a critically important role and significant methodological developments in this discipline is prerequisite. That may leads to a new revolution in biodiversity assessment, conservation biology, evolutionary biology and a lot more.

Keywords: Phylogenetic, Systematics, DNA barcoding, Species, Biodiversity.